



Parker Street Waste Site

Public Information Plan (PIP) Meeting

Thursday - January 29, 2009



Agenda

- ❑ Investigation/Clean-up Status Report
- ❑ Walsh Field
 - Soil Contamination Overview & Arsenic Issue
- ❑ New Bedford High School (NBHS)
 - Soil/Groundwater & Interior PCB Source/Sink Issues
- ❑ Keith Middle School (KMS)
 - Long-Term Monitoring & Sediment Contamination Issue
- ❑ Public Involvement
 - Outline of future approach

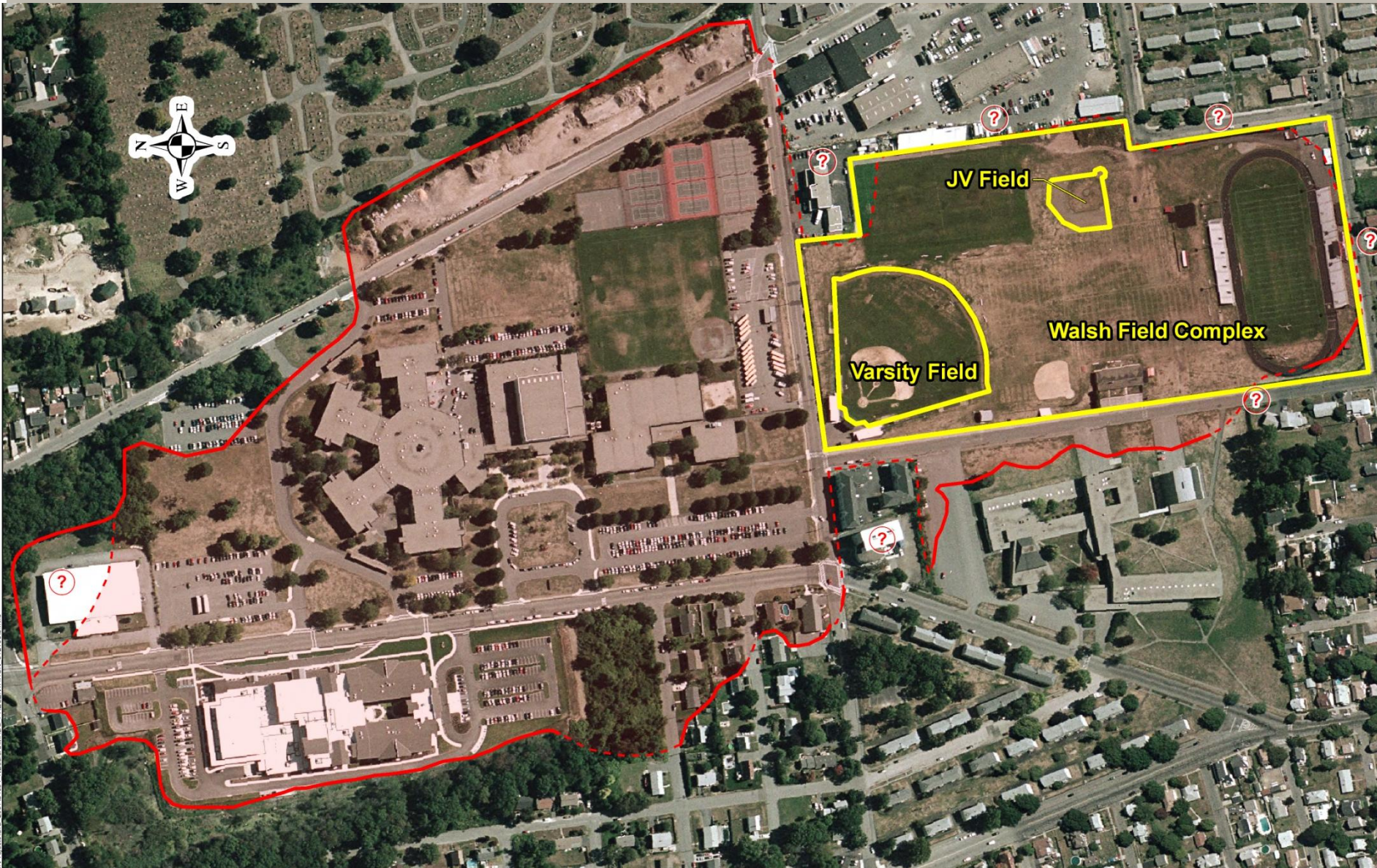
Investigation/Clean-up Status Report



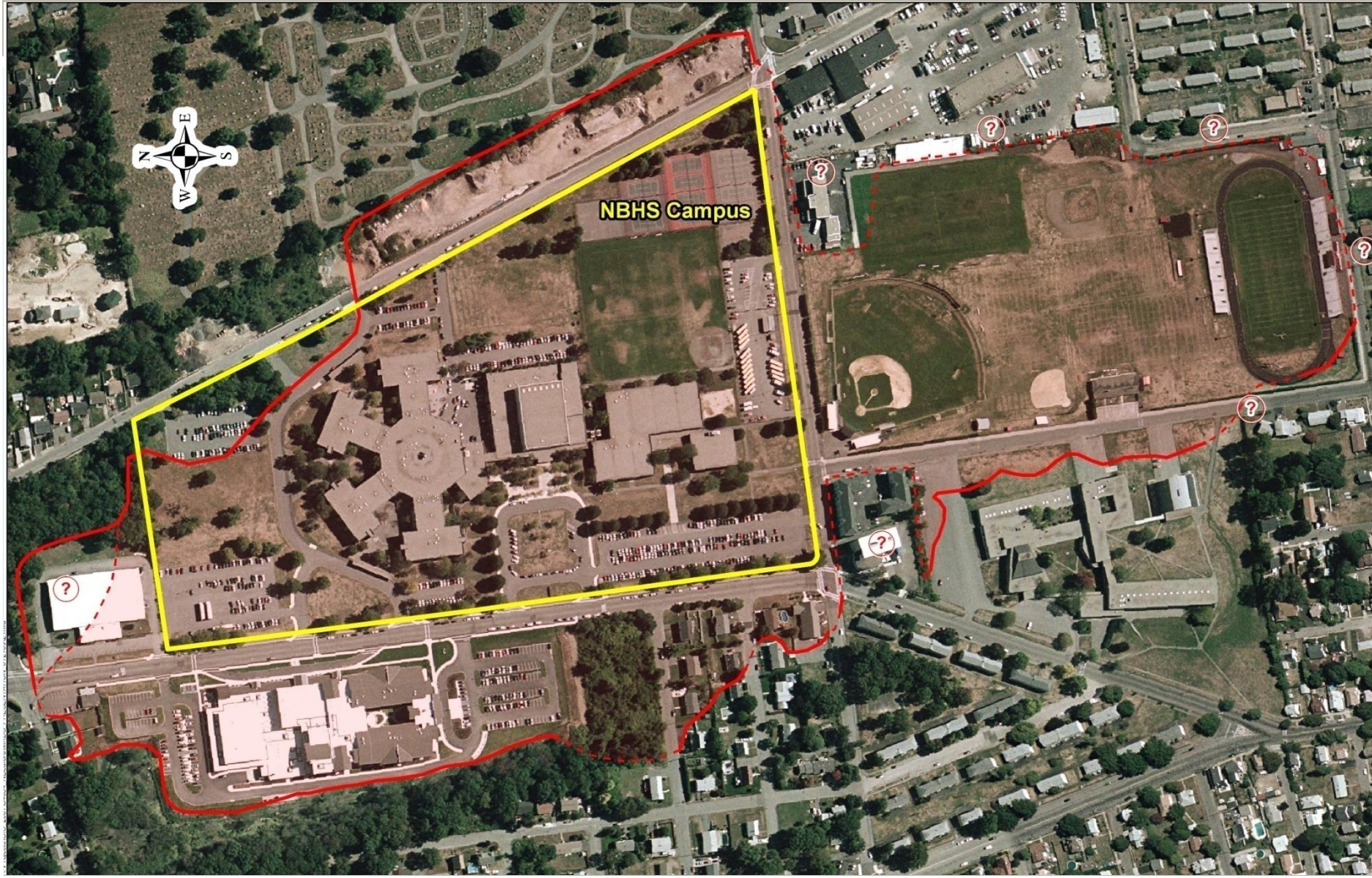
Parker Street Waste Site Footprint



Walsh Field Sub-Areas of Site



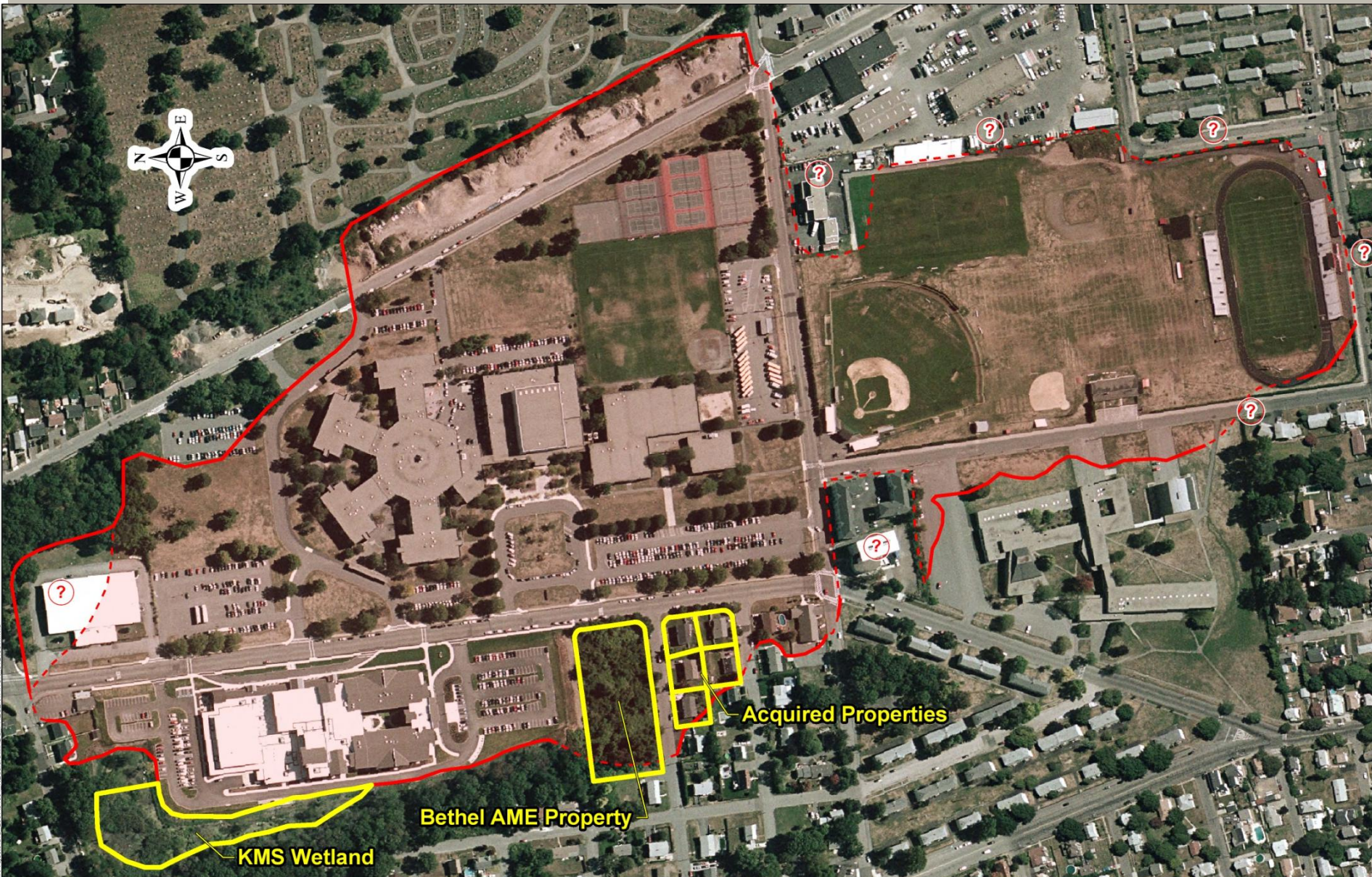
High School Campus Sub-Area of Site



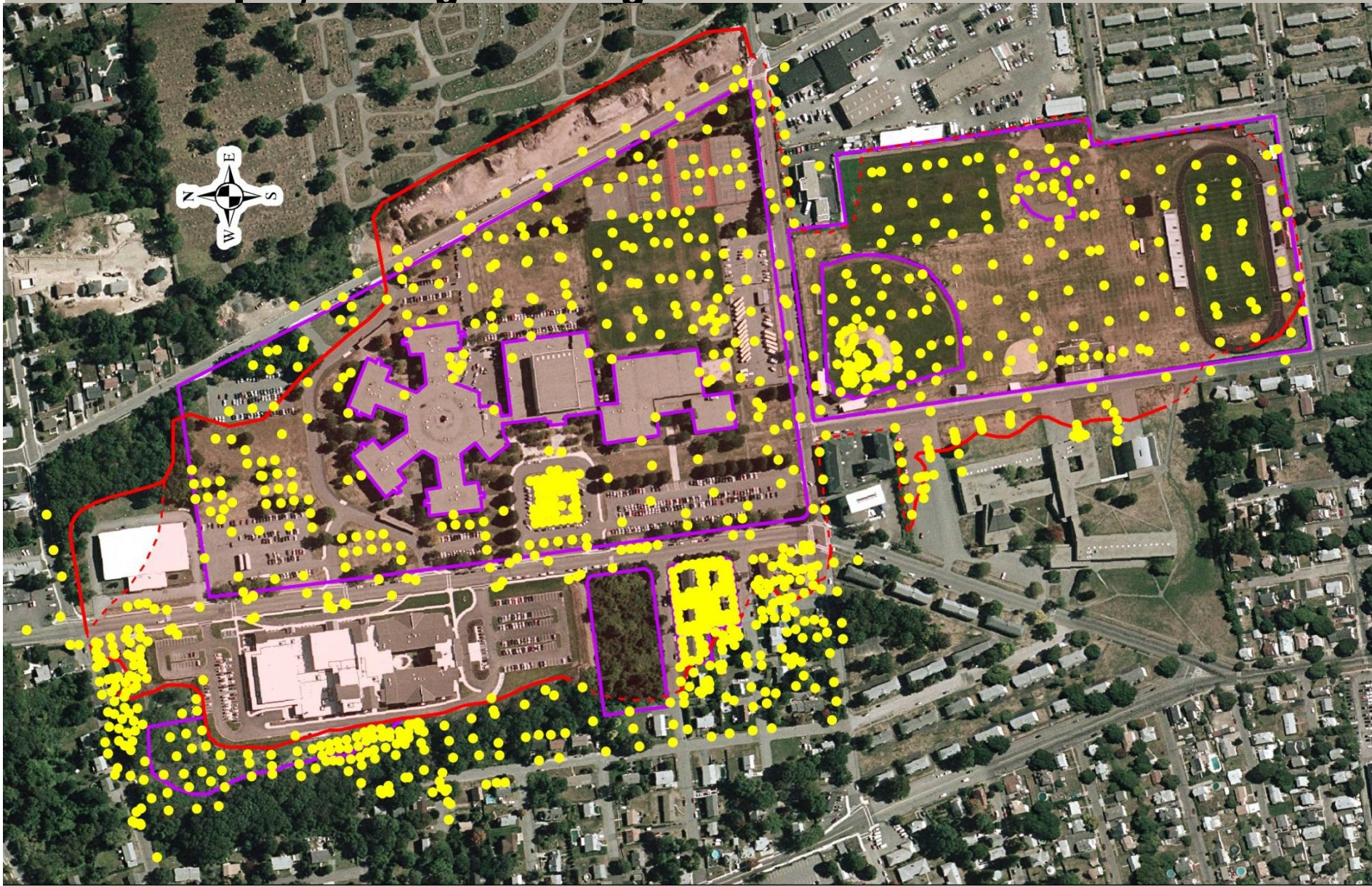
High School Interior Investigation/Remediation



KMS Wetland and Residences



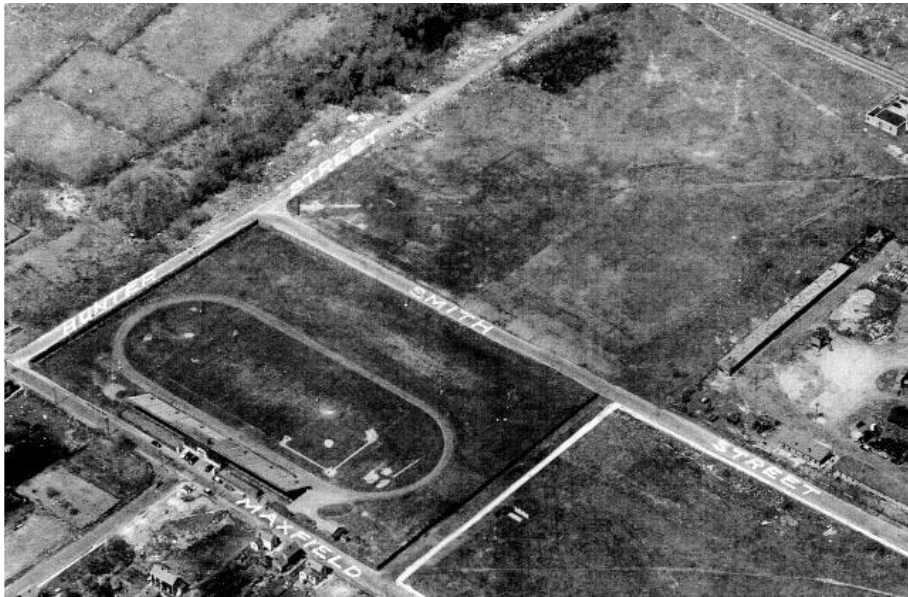
Sample/Boring Coverage — Site Wide



Overall Investigation/Cleanup Status Summary

Location	Work Completed		In process
Walsh	<ul style="list-style-type: none"> Varsity /JV IRA (field) IH controlled Environmental investigation 	<ul style="list-style-type: none"> Design basis memo Current risk screening Excavation analysis 	<ul style="list-style-type: none"> Remedial planning
NBHS (exterior)	<ul style="list-style-type: none"> Environmental investigation 	<ul style="list-style-type: none"> Current risk screening Design basis memo 	<ul style="list-style-type: none"> Excavation analysis. Remedial planning
NBHS (interior)	<ul style="list-style-type: none"> Vent remediation Source/sink sampling 	<ul style="list-style-type: none"> Quasi-random sampling 	<ul style="list-style-type: none"> Data analysis Report prep.
KMS Wetland	<ul style="list-style-type: none"> IRA initiated 	<ul style="list-style-type: none"> Environmental investigation ongoing 	<ul style="list-style-type: none"> IH mitigation Completion report. Causal investigation
Residential (city)	<ul style="list-style-type: none"> Environmental investigation (a few remaining areas). 		<ul style="list-style-type: none"> Acquiring access to remaining areas.
Residential (private)	<ul style="list-style-type: none"> Environmental investigation (a few remaining areas). 		<ul style="list-style-type: none"> Acquiring access to remaining areas.

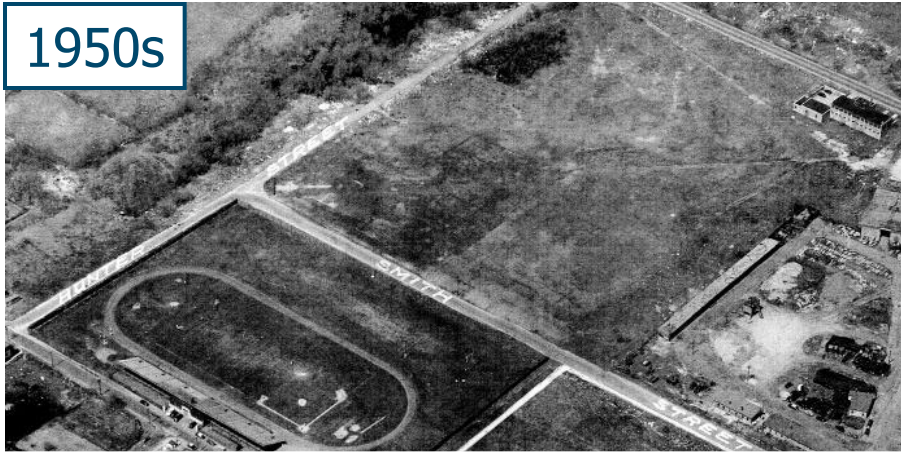
Walsh Field Sub-Area



Walsh Field – Background

Findings from Environmental Investigation

1950s



Present



□ Environmental Investigation

- Soil analysis –
 - Polyaromatic hydrocarbons (PAHs)
 - Polychlorinated biphenyls (PCBs)
 - Metals
- Supplemental arsenic analysis for baseball diamonds

□ Findings

- Primarily PAH and metals
- Non-detect (ND)/low-concentration PCBs
- Localized elevated arsenic in shallow soil on baseball diamonds

Walsh Field – Overview

Immediate Response Action (IRA)

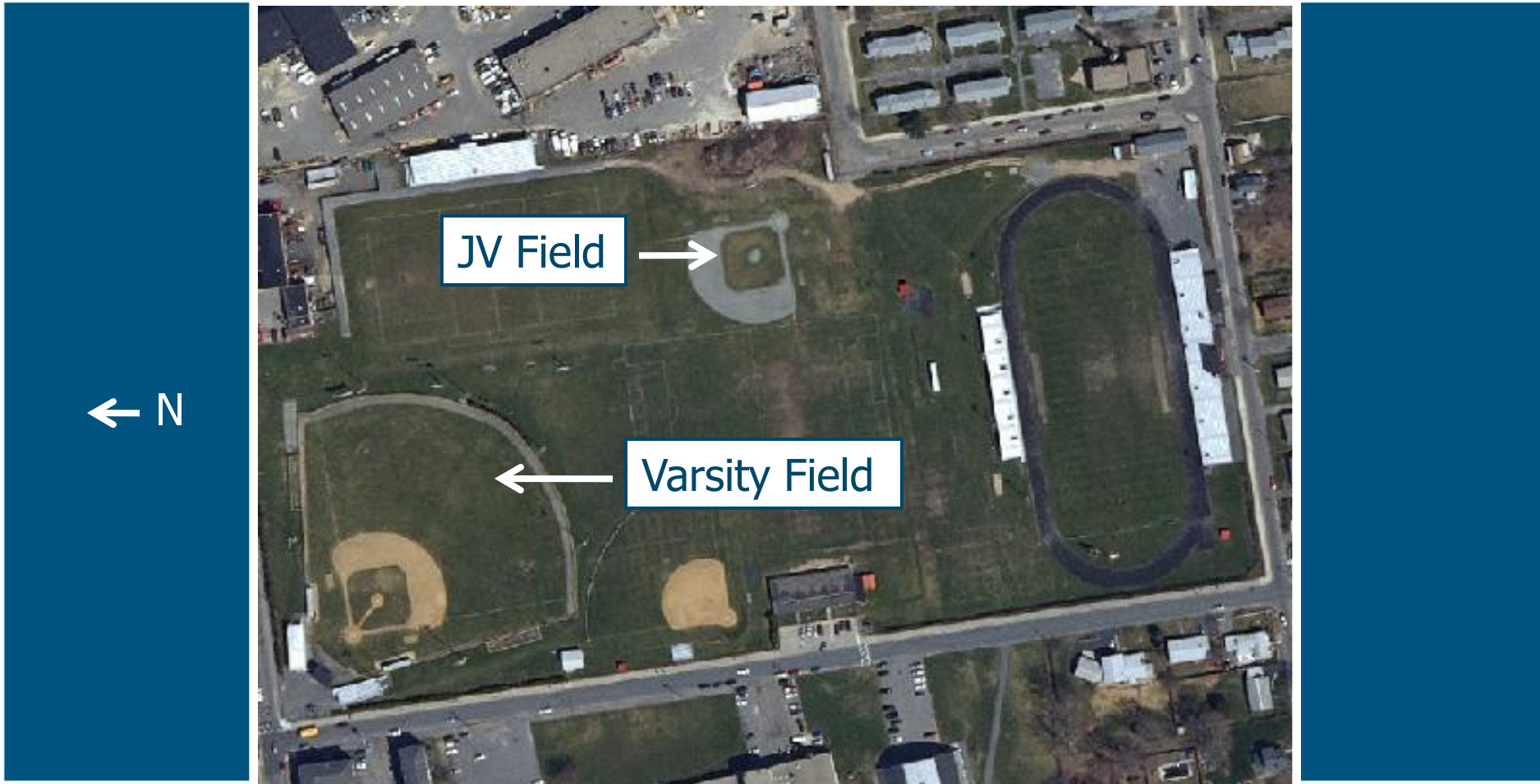
Varsity Summer 2008



- ❑ Varsity and Jr. Varsity Fields
 - Elevated arsenic soil concentrations
 - Triggered potential Imminent Hazard (IH) reporting and evaluation.
 - Other areas O.K.
- ❑ Findings
 - IH condition at Varsity Field
 - No IH at JV Field
- ❑ Immediate Response Action (IRA)
 - RTN 4-21407

Walsh Field

Varsity & JV Diamond Soil Removal



Walsh Field – Calendar of Events

Varsity and JV Field Arsenic Contamination



Varsity November 2008



- ☐ Reported to MassDEP (2-hour)
 - July 30th
- ☐ Supplemental soil sampling/risk analysis
 - August 2008
- ☐ Filed IRA* plan & Spec. Waste Determ.
 - November 2008
- ☐ Regulatory approval of IRA
 - November 2008
- ☐ Mayor directed additional removal
 - November 2008
- ☐ MassDEP approved Mayor's request
 - November 2008
- ☐ Soil removal and additional sampling
 - November 2008

Walsh Field – Ensuring Safety/Managing Risk

Varsity and JV Field Arsenic Contamination

JV November 2008



Water supply
for dust
suppression

- ☐ Access restricted
- ☐ Arsenic surface soil removed
- ☐ Dust suppression/monitoring
- ☐ On-going risk evaluation
- ☐ Achieved significant risk reduction
 - Mitigated IH at Varsity
 - Further reduced risk at JV

Walsh Field – Dust Monitoring

Varsity and JV Field Arsenic Contamination

JV November 2008 Example



- ☐ Real-time field instrumentation and back-up laboratory analysis
- ☐ No dust levels in excess of action levels.
- ☐ All arsenic air results non-detect *

Walsh Field — Next Steps



Varsity and JV Field Arsenic Contamination

Walsh Field Summer 2008



- ☐ Dispose of soil stockpile
- ☐ Design comprehensive remedy for entire field
 - Arsenic and lead driven
- ☐ Implement long-term solution

High School Campus Sub-Area



New Bedford High School

Soil and Groundwater Data Collection

Exterior Soil and Groundwater

NBHS Ball Field Summer 2008



❑ Preliminary Findings

- Generally consistent with past work by BETA
- Groundwater data also collected

❑ Athletic Fields/Grounds

- Precautionary surface soil data collection following Walsh Arsenic discovery
- No exposures of concern detected in shallow soil (0 -1 foot below grade).

New Bedford High School

Soil and Groundwater Data Collection

Sub-Slab Soil and Groundwater

Boiler Room Summer 2008



□ Soil Analysis Findings

- 8 sub-slab soil borings
- Low concentration PCBs
- Sporadic metals above standards
- One PAH detect above standard [benzo(a)pyrene].

□ Groundwater Findings

- 3 sub-slab wells/2 exterior wells
- Exceedance in one well due to turbidity (boiler room)
- Filtered result OK

New Bedford High School

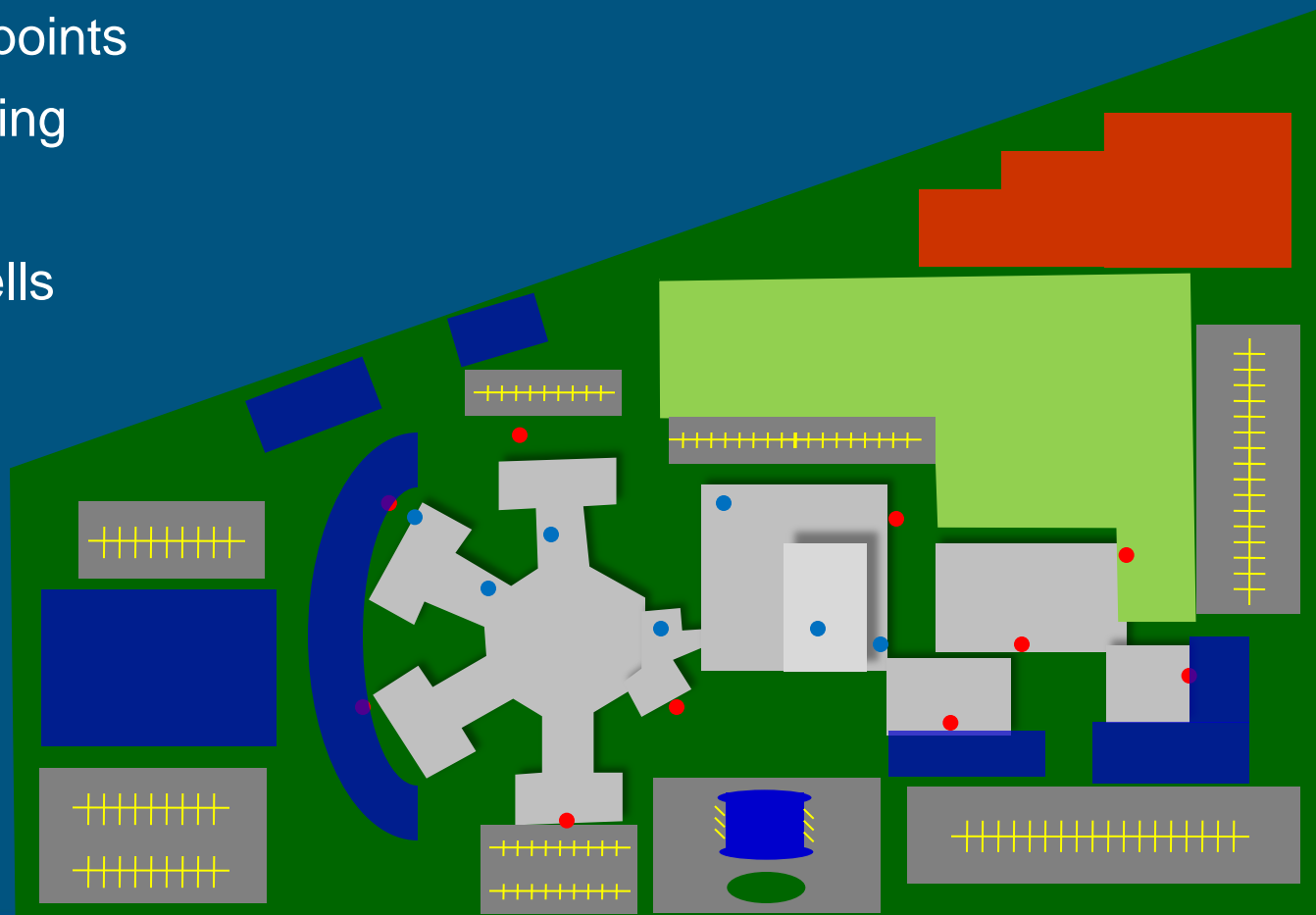
Soil and Groundwater Data Collection

Investigation Locations

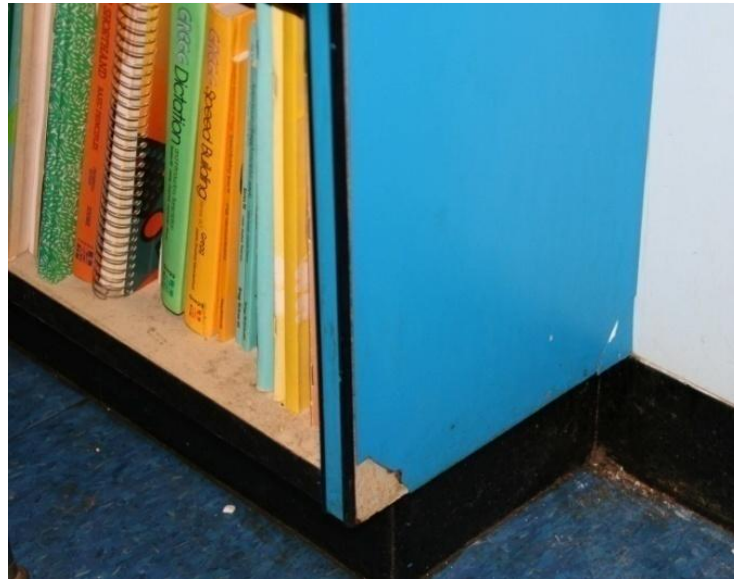
- ❑ 63 hand auger points
- ❑ 47 machine boring
- ❑ 264 Samples
- ❑ 5 Monitoring wells

← N

-  June/July 2008
-  August 2008
-  August 2008
-  December 2008



High School Interior



NBHS Interior (Source/Sink Investigation)

Recent Accomplishments

Before



After



- ☐ Remediation Initiated

 - July 2007

- ☐ Remediation Completed

 - August 2007

- ☐ HVAC Repairs/Balancing

 - February 2008

- ☐ PCB Air Sampling

 - February 2008

NBHS Interior

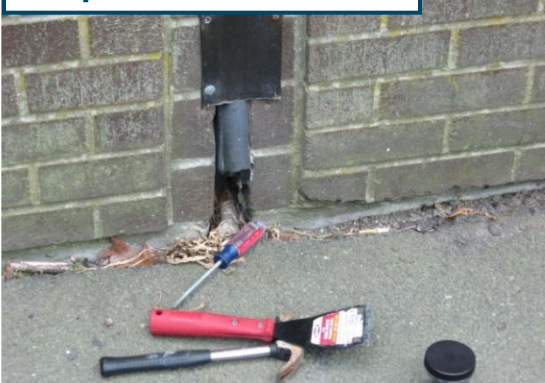
Notes on Process

Response	Status
Visual Inspection (sources)	Done
Re-sampling	Done
Verbal Report to City	Done
Interviews with personnel	Done
Consultation with laboratory	Done
Supplemental Assessment Plan	<i>Completed July 2008</i>
Quasi-Random/Substrate Sampling	<i>Completed December 2008</i>

NBHS Source/Sink

Scope and Accomplishments

Expansion Joint



Laminate Adhesive



Completed July 2008

- ✓ Visual assessment/materials quantification
- ✓ Sample additional materials
- ✓ Further evaluation of concentration trend
- ✓ 63 bulk samples, 8 wipe samples

Completed December 2008

- ✓ Quasi-random sampling plan
- ✓ 218 bulk/wipe samples
- ✓ 10 depth samples

NBHS Source/Sink

Findings

Laminate Adhesive



Laminate Adhesive



- ❑ Additional PCB-containing building materials (e.g., adhesives, gaskets)
- ❑ Numerous low-concentration building materials serve as sources of indoor air PCBs
- ❑ Higher PCB air concentrations trend with higher aggregate PCB building material concentrations

NBHS Source/Sink

Findings (continued)

□ July 2008 Bulk Building Material PCB Results

- PCBs detected in 57 out of 63 building material samples
- Concentration range: 0.16 ppm to 230 ppm (Total PCBs)

□ July 2008 PCB Wipe Sampling Results

- PCBs detected in 5 out of 8 wipe samples
- Results range: 1.5 ug/100 cm² to 7.1 ug/100 cm²

NBHS Interior - Possible Data Trend

2007/2008 Bulk and Air Results

Medium	B-240	A-114-3	High Conc. Correlation
Floor Tile Mastic	10.1 ppm	0.2 ppm	B-240
Window Glazing	14.9 ppm	2.1 ppm	B-240
Baseboard Mastic	4.5 ppm	2.0 ppm	B-240
Old Paint	0.2 ppm	8.3 ppm	
Recent Paint	2.9 ppm	1.6 ppm	B-240
Steel Beam Paint	6.4 ppm	4.3 ppm	B-240
Vinyl Cove Base	7.8 ppm	3.7 ppm	B-240
Vinyl Floor Tile	2.6 ppm	0.18 ppm	B-240
Floor Tile Mastic	10 ppm	0.69 ppm	B-240
Push-pin Board	7.5 ppm	2.97 ppm	B-240
Laminate Adhesive	230 ppm	1.31 ppm	B-240
Air Result 2007	0.32/0.044 ug/m ³	0.08/0.040 ug/m ³	B-240

**Concentration
Units:**

**Bulk results in
mg/Kg (ppm)**

**Air Results in
ug/m³**

NBHS Source/Sink

Findings (continued)

❑ December 2008 Quasi-Random PCB Results

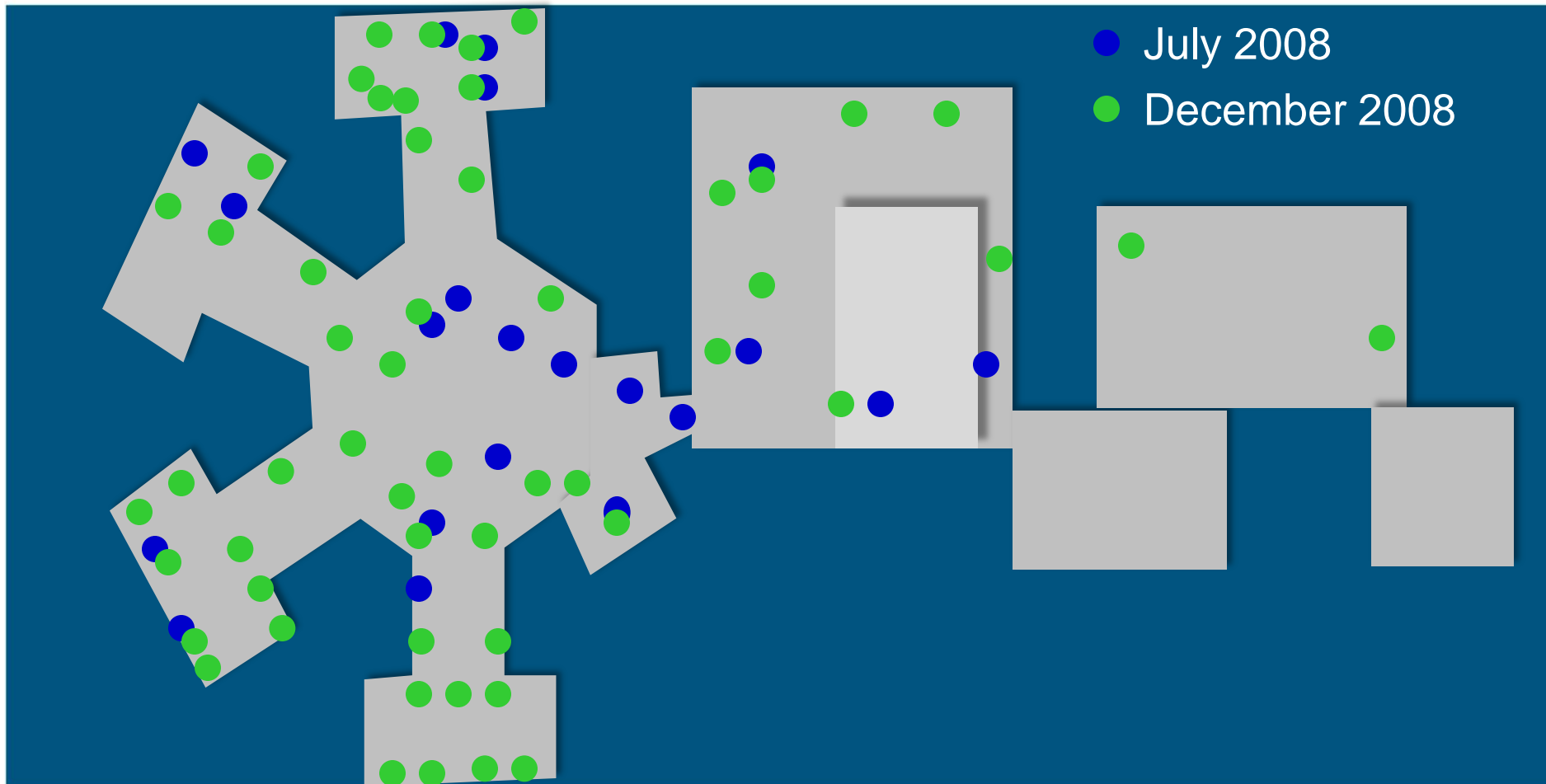
- PCBs detected in 207 of 218 building material samples
- Concentration range: 0.05 ppm to 176.9 ppm (Total PCBs)

❑ December 2008 PCB Depth Sampling Results

- PCB depth sampling results pending

New Bedford High School

Source/Sink Sampling



NBHS Interior

Next Steps Lead up to Remediation

Wipe Sample Target



Laminate



- ❑ Remedial Planning/Specification Prep.
 - Initiate during Winter 2008/2009
 - Solicit bids Spring/Summer 2009
 - Initiate remedy when practicable
- ❑ Targeted Pre-/Post-PCB Air Monitoring
 - Bracket remedial effort

Keith Middle School Monitoring and Wetland Sediment Contamination



Keith Middle School

Long-Term Monitoring Program



- ❑ Scope and Accomplishments (2008)
 - Groundwater Monitoring – Done.
 - Cap Inspection – Done.
 - Wetland Inspection – Done.
 - Sediment Monitoring – Ongoing Evaluation.
 - Annual Update Training – Done.
 - KMS Indoor Air & Vent Sampling – Done.

Keith Middle School

Groundwater Monitoring

❑ Analysis of Samples from 3 Wells

- Volatile Organic Compounds (VOCs)
- Polychlorinated Biphenyls (PCBs)
- Metals

❑ Results

- VOCs: All non-detect (except MTBE, below standards)
- PCBs: All non-detect
- Metals: No detections above standards

Keith Middle School

Groundwater Monitoring Well Locations



Keith Middle School

Cap Inspection - LTMMIP

KMS Front Entrance (View South)



❑ Conducted Three Times/Year

❑ Inspection Scope

- Walking traverse of entire site
- Visual observations of entire cap
 - First floor concrete slab
 - Interior courtyard
 - All asphalt and landscaped surfaces

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Cap Inspection (continued)

KMS North Wetland (View North)



□ Inspection Findings

- Concrete slab in acceptable condition
- Exterior pavement and concrete surfaces in acceptable condition
- Courtyard surfaces in acceptable condition
- Exterior landscaped areas are acceptable except as follows:
 - Sparse vegetation - southern slope
 - Area of slope failure (**recently repaired**).
 - Sloughing rip-rap - west side/storm drain
 - Minor erosion - northwest corner

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Cap Inspection (continued)

Rip Rap Slough



Sparse Vegetation Patch



Newly Repaired Slope



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Wetland Inspection - LTMMIP

KMS North Wetland (View South)



❑ Conducted in Spring 2008

❑ Inspection Scope

- Walking traverse of top & toe of slope
- Look for unacceptable conditions:
 - Excessive sedimentation
 - Conditions that could cause excessive sedimentation
 - Vegetation conditions

Keith Middle School

Wetland Inspection (continued)

❑ Wetland Inspection Findings

- Generally well vegetated slope
 - Exploring vegetation/animal control options
- Similar erosion issues as noted in cap inspection
- Temporary repair still viable with some localized soil migration around the lower hay bales (permanent repair implemented since time of inspection).

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Wetland Inspection (continued)

Rip Rap Slough



Permanent Slope Repair



Well Vegetated Slope



Well Vegetated Toe



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Wetland Sediment Sampling/Monitoring - LTMMIP

KMS North Wetland
(View South)



- ❑ Long-Term Monitoring and Maintenance Implementation Plan (LTMMIP)
- ❑ Sampled Spring 2008
- ❑ Monitoring scope
 - Four randomly collected sediment samples (base of slope)
 - Analyze samples for PCB Aroclors (Method 8082)

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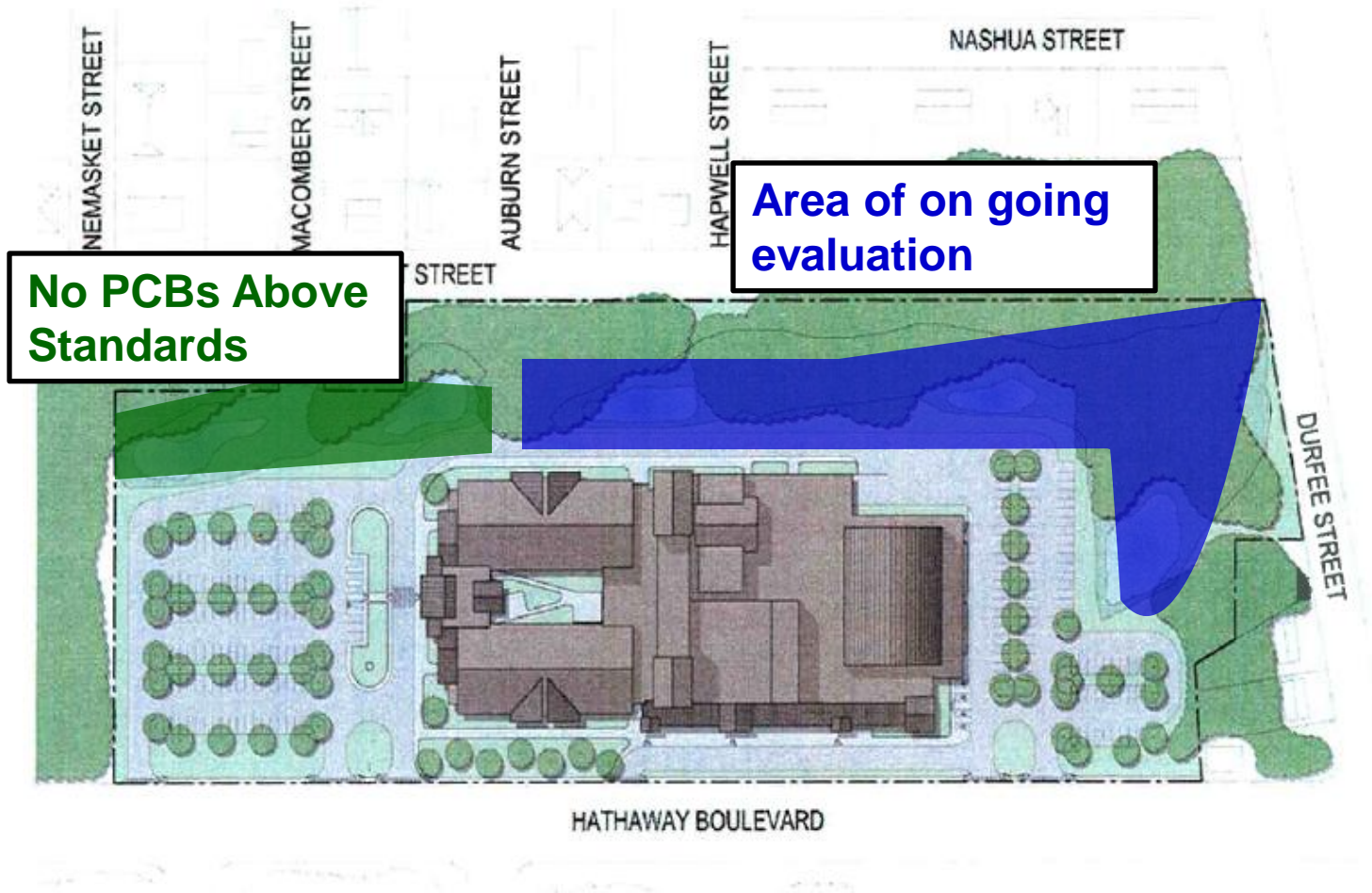
Wetland Sediment Monitoring (continued)

□ Monitoring Findings

- Three out of four samples non-detect
- One sample detected PCBs (16.6 mg/kg)
- Triggered potential Imminent Hazard reporting and evaluation under the MCP (reported to MassDEP)
- Preliminary calculations indicate an Imminent Hazard exists (TRC's calculations slightly exceed the Imminent Hazard criteria set forth in the MCP under 310 CMR 40.0955)
- *Delineation and evaluation ongoing*

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Wetland Sediment Monitoring (continued)



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Annual Update Training

☐ KMS Remedy Related Worker Training

- Location of impacted soil at the site
- Purpose of the AUL
- Work allowed under the AUL
- When to contact the LSP
- Required Inspections
- Summary of monitoring findings

☐ Performed by City in April 2008

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Indoor Air & Vent Monitoring Update

- ❑ TRC Monitoring since March 2007
- ❑ PCBs – Indoor Air/Vents
- ❑ VOCs – Indoor Air/Vents



KMS Air Monitoring

PCBs

- ☐ PCBs KMS indoor air equivalent or less than background air
- ☐ PCBs below EPA Action Level (0.05 ug/m³)
- ☐ PCBs Present in Vent Samples Periodically (Background)

Risk Evaluation for Indoor Air

Keith Middle School

- ☐ Some compounds detected above AAL/TELs*
- ☐ AAL/TELs are outdated
- ☐ Risk evaluation shows no risk above MassDEP criteria
- ☐ TRC has recommend and is using updated comparison criteria based on more current toxicology

*AAL — Allowable Ambient Limit

TEL — Threshold Effect Exposure Limit

VOC Measurements Summary of Findings

Keith Middle School

- ❑ VOCs Present in Vents Consistently
- ❑ VOCs in Vents
 - Generally decreasing in concentration over time
 - Also reflects compounds in soil gas (indicates system performing as designed)
- ❑ VOCs KMS Indoor Air
 - Background concentrations (off-gassing of building materials)
 - Also attributable to maintenance activities

Public Involvement

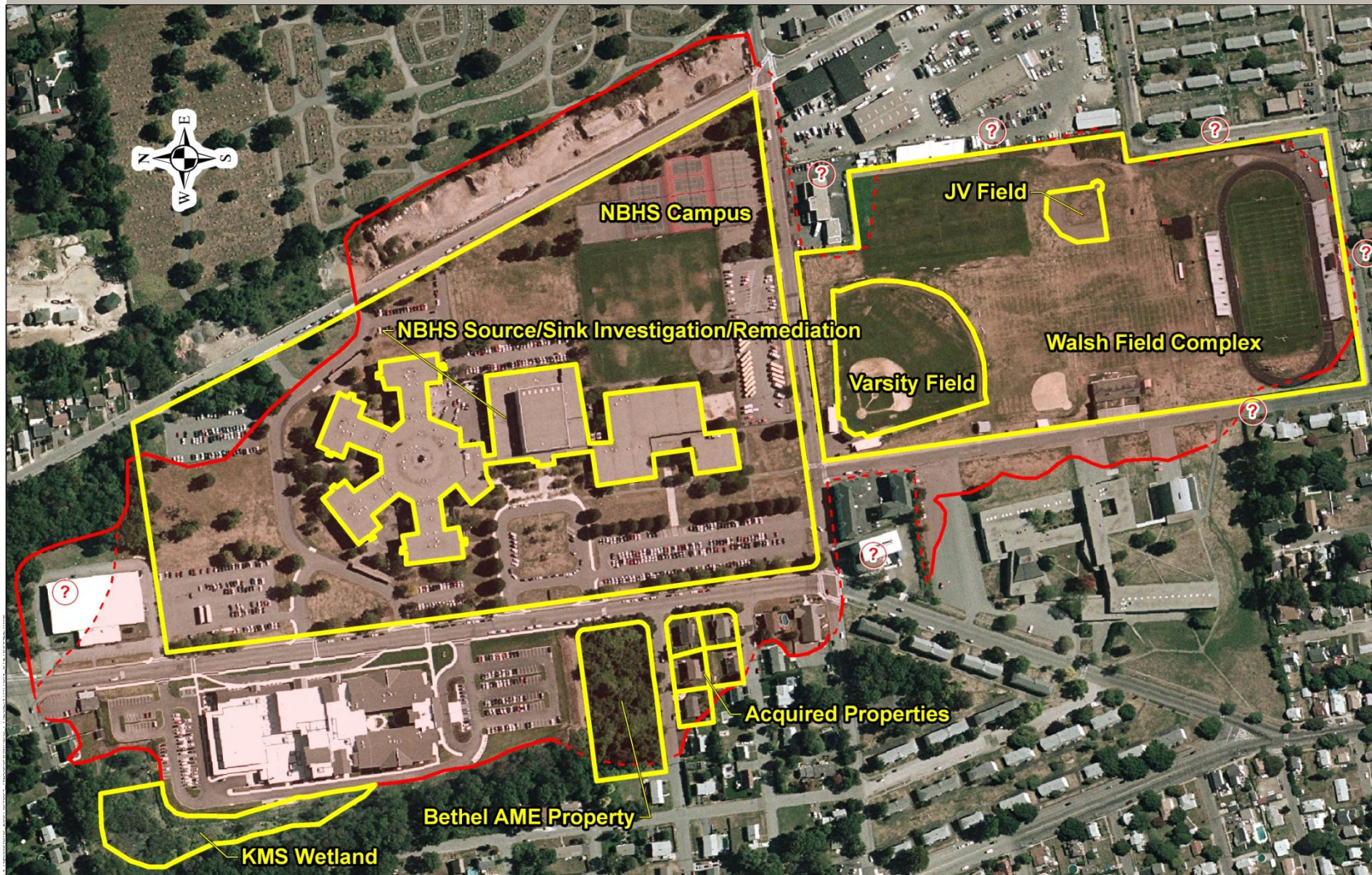
Outline of Future Approach

Public Involvement

- ❑ Minimum of Quarterly Public Meetings
- ❑ Periodic Milestone Meetings
 - Outline of remedial approach
 - Issuance of major deliverables
- ❑ Massachusetts Contingency Plan Requirements
- ❑ On-line Posting of Data and Project Documents

Investigation/Remediation Road Map

Summary Site Overview



Overall Investigation/Cleanup Status Summary

Location	Future Work
Walsh	<ul style="list-style-type: none">▪ Initial phase remedial design in 2009▪ Phased implementation 2009/2010▪ As needed delineation
NBHS (ext)	<ul style="list-style-type: none">▪ Initial phase remedial design in 2009▪ Phased implementation 2009/2010▪ As needed delineation
NBHS (int)	<ul style="list-style-type: none">▪ Remedial planning (winter 2009)▪ EPA planning documentation▪ Specification prep (winter/spring 2009)▪ Bid process (spring 2009)▪ Initial phase remedy (summer 2009)

Overall Investigation/Cleanup Status Summary

Location	Future Work
KMS Wetland	<ul style="list-style-type: none">▪ Initial phase remedial design in 2009▪ Implementation 2010▪ As needed delineation
Residential (city)	<ul style="list-style-type: none">▪ Wrap up investigation (2009)▪ Pre-demo environmental sampling (2009)▪ Demolition (spring 2009)▪ Initiate remedial planning (2009)▪ Initial phase remedial design in 2009▪ Phased implementation 2009/2010▪ As needed delineation
Residential (private)	<ul style="list-style-type: none">▪ Wrap up investigation (2009)▪ Case-specific planning

Thank You for Your Time and Attention

Questions are Welcome